UNIT 3 SETTING UP FOOD SERVICE UNIT

Structure

3.1 INTRODUCTION

In Unit 2 entitled Planning a Food Service Unit, we learnt about the importance of planning, steps in planning, identified the resourses and realized the importance of planning and the use of resources. In this unit, we will focus on how to set up a food service facility, and will be introduced to all aspects of organizing and establishing a unit.

Planning and establishing the physical facility for a food service unit is a very important exercise as it involves a large amount of money and very often considered a *one time investment*. The building and equipment is reflected as the asset of the business. You would recollect how we formulated the plans in Unit 2, wherein we discussed the budget, and how to plan the money needed for establishing physical facility. Food service managers are constantly involved in facility designing or remodeling the work area to accommodate change or expansion as part of their responsibility.

What is meant by facility design and layout? What is their significance while setting up a food service unit? We will focus on these aspects here in this unit and study the various phases involved in planning a layout.

Objectives

After going through this unit, you will be able to:

- define layout and design,
- discuss factors that influence the structure of the physical plant,
- describe what planning team is,
- enumerate the phases in planning, and
- explain about energy and time management.

3.2 LAYOUT AND DESIGN: DEFINITION

In discussing the physical facility, the terms layout and design is used. Let us begin our discussion by first understanding the terms layout and design. *Layout* would *spell*

out the space allotted for the different operations and also indicate the work centers and equipment. It is the *blue print of the facility.*

Design would mean providing all the architectural features and making the unit an operational one. Before formulating the facility plans, one should look at the factors that influence the structure of the unit. What could be these? Let us read and find out next.

3.2.1 Factors Influencing Layout Design

Though the process through which the raw material has to move to become a finished product is similar in any food service unit, there are certain factors, which make each unit specific in design and different from others. These factors are *objective or type of the food service unit, profile of clientele, the menu offered and its operations and the delivery system.* Let us see how these operate.

The facility plan first of all is influenced by the *purpose of unit*, for e.g. if the unit is a restaurant or hospital, the facility for production and service of food for each will be different. In the same manner, the *customer's profile* will also determine the type of unit design and its ambience. You will observe that a canteen for a college student is different in design from that of a hospital or a restaurant. The *menu* will influence the kitchen design, in the type of work centers that has to be established and the equipment that has to be installed. A kitchen that makes an Indian or Chinese or even a Continental will differ in its choice of work centers and equipment. Finally, the *type of service* greatly influences the space needed for service and the style of service that can be adopted. In a limited space, the service of food may be from a counter where as if space is available tables with seating can be provided for customers. The space available will also determine volume of customer that can be entertained at a time. So when one plans the choice of site for a facility these aspects have to be considered.

Next, let us review the various phases we need to consider for designing an effective layout. But first a word about the planning team.

3.3 PLANNING TEAM

You would recognize how important the task of planning and setting up a food service facility is. This job can be done only if efficient people constitute the team. The team should have the

- Owner or administrator who has the authority to spend money for the project,
- The food service manager, who is knowledgeable about the operations,
- Architect, who translate ideas into structural plan,
- Food service design consultant who gives detail and specific information,
- Equipment representative, to discuss the choice of equipment available, and
- Building contractor who ensures that the construction goes according to plan.

The planning team formulates the floor plan, selects material, and writes specifications cooperatively. It is important that every detail is included, is specific and that nothing is left to chance. These plans have to be checked by all team members before actual construction takes place. It is important that all of the team members work together. The team can be facilitated in their work if the phases of planning is outlined, which will include the drawing up of the prospectus, establishing the work centers and installation of equipment and working out the work relationship between unit.

Next, let us review the various phases of planning a layout.

3.4 PLANNING OF A LAYOUT: VARIOUS PHASES

A systematic process of planning has to be undertaken for designing an effective layout. This can be done if the following six phases of planning are adopted. These include:

- Information gathering or developing a prospectus,
- Determining work centers,
- Determining equipment,
- Developing overall plan,
- Giving detail – features or architectural considerations, and
- Evaluating plan.

Let us go through each of these steps in details.

3.4.1 Gathering Information or Development of a Prospectus

You have learnt that any decision made, especially where large amount of money is to be spent, should be based on thorough research in the field that gives you the understanding of the task that has to be accomplished. Seeking this information is the exercise of developing a prospectus

A *prospectus is a formal summary of a proposed work i.e. it is a written description detailing all aspects and elements of the project undertaken* as you may recall studying in Unit 2 earlier. It is a communication tool that is shared with and used by all who constitute the planning team. It aids in their understanding of what is required and desired in the design that has to be developed. The prospectus should give a good picture of the physical and operational aspects of the proposed facility. It may be based on questions such as:

- What type of food service is planned?
- What is to be accomplished?
- How many people and what age groups are to be served? How many are to be served at a time?
- What will be the hours of service and the style of service?
- What is the menu pattern?
- In what form will food be purchased and how often? What kind of storage facility will be needed? How much of refrigerated storage is required?
- What are the equipment and of what capacities will be required for the preparation and service of the menu?
- What are the desirable space relationships?
- Will safety precautions be incorporated?
- What are the energy sources and how economical are they?
- What is the cost limitation? What is the projected income available?

The prospectus is developed when you give answers to these questions. It must be written clearly, concisely and yet in detail. Usually it is done in the three parts. These are enumerated herewith:

1) *Rationale* that includes the title, reason or need of project, goals objectives policies and procedures.

2) *Physical and operation characteristics* include suggested or desired architectural designs and features, details of menu, food preparation and service, employee and customer profile and anticipated volume of business.

3) *Regulatory information* includes built in sanitation, safety and noise control features and energy and type of utility used.

From developing the prospectus, we move on to the next phase which deals with determining the work centers.

3.4.2 Determining Work Centers

In any facility planning physical and operation characteristics play an importance role in determining the work centers. As mentioned earlier under the influencing factors, the menu, the food preparation and type of service and anticipated volume of customers will determine the work centers. Before designing the work centers, certain criteria for design development have to be kept in mind. They are:

- Operations should have a smooth straight flow.
- Work flow and relationship between work centers.
- Prevention of criss crossing, bottlenecks and back tracking.
- Adequate space for men and machines.

The work centers should be determined on the basis of the operations involved in the production of a finished product from its raw material. This must have a sequential flow and ensure smooth operations. The activities that are common in any type of food production and serving unit may be illustrated as:

Menu planning → procurement → receiving → storage → preparation → production → holding/packing → service.

Each of these operations will become a work center where this activity can take place. The space, equipment and manpower needed would further determine the total area to be allotted. Let us see what the specific needs of each operation are:

- *Menu planning*: It is the first activity that requires an office room.
- *Procurement*: It is the next activity that is done from outside the premises. So the first activity that operates in the kitchen is the receiving of raw materials that are purchased.
- *Receiving*: Receiving area should have an access from the outside for vehicles to enter and unload large volume of commodities at a time. Yet it should be protected from weather and space and equipment provided for physical verification of the commodities.
- *Storage*: The raw material after checking and sorting has to be stored appropriately in stores. Any institution should have basically two types of stores– the dry and cold. The dry store should be specific for food material, linen, crockery and glassware and cleaning agents. The cold store should have both cool and cold room. It can be reach in or walk in, depending on the volume to be stored. Ideally, they should be placed on either side of the receiving or sorting area.
- *Preparation*: Raw food items have to be issued from the store for preparation. The *preparation area* calls for processing of a variety of raw material hence ample space and washing facility should be provided. There should be separate space to process vegetable, poultry, fish, meat and their products. A separate unit should also be provided for the preparation of items that need not go through production unit; for example a space called pantry is earmarked for salad, sandwiches and cold platter. Space also needs to be provided in installing labour saving processing equipment.
- *Production*: The heart of the kitchen is the *production unit* where the actual cooking takes place. The production unit also can be divided into work stations, depending on the menu. For an Indian menu, space has to be provided for rice cooking in terms of steam kettles and chappati making unit. Usually the production units are also kept specific for vegetarian and non-vegetarian dishes. For oriental or continental cooking, the work station has also to be specific and suitable for the menu. These units should be provided with space to stock the pots and pans and also a cook's table to assemble food. Different arrangements can be possible for the cooking area. Figure 3.1 gives four suggested arrangements for a cooking

area. As you would have noticed in Figure 3.1, the arrangement can be straight line or L-shaped or double or back-to-back or a U-shaped arrangement. Note the amount of aisle space and total floor space required for each arrangement.

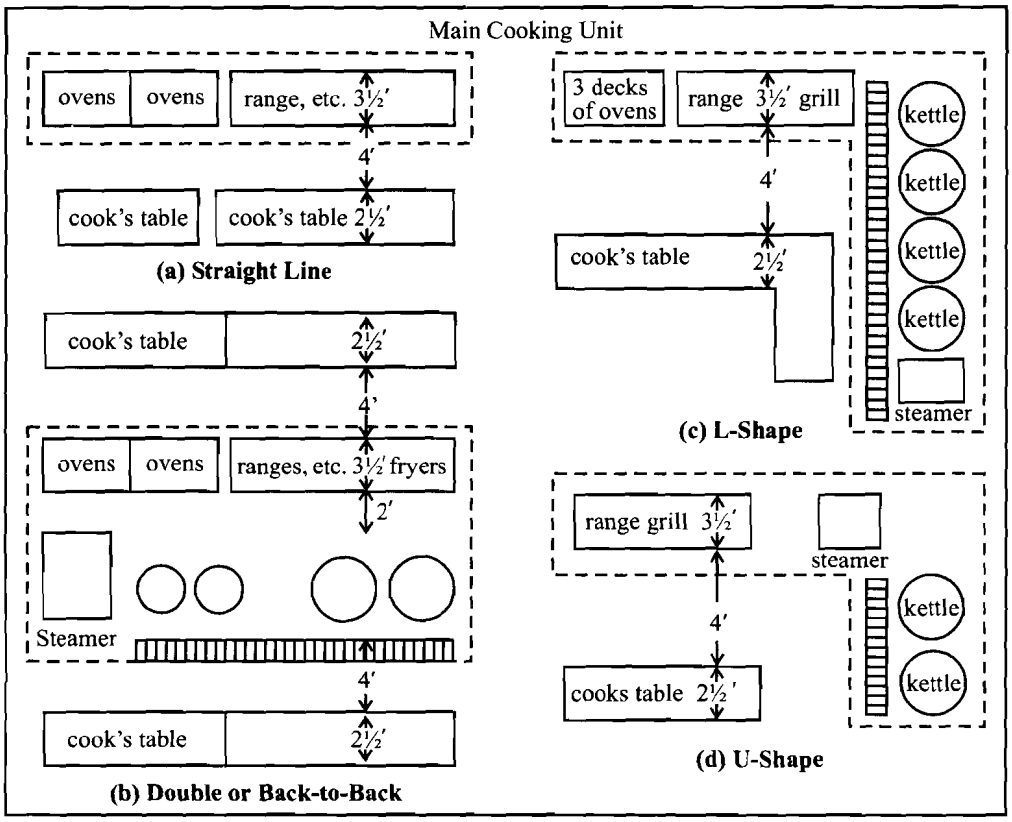

Figure 3.1: Four Suggested arrangement for a main cooking area

The relationship of main cooking unit to other work areas in a conventional food service system is also highlighted in Figure 3.2.

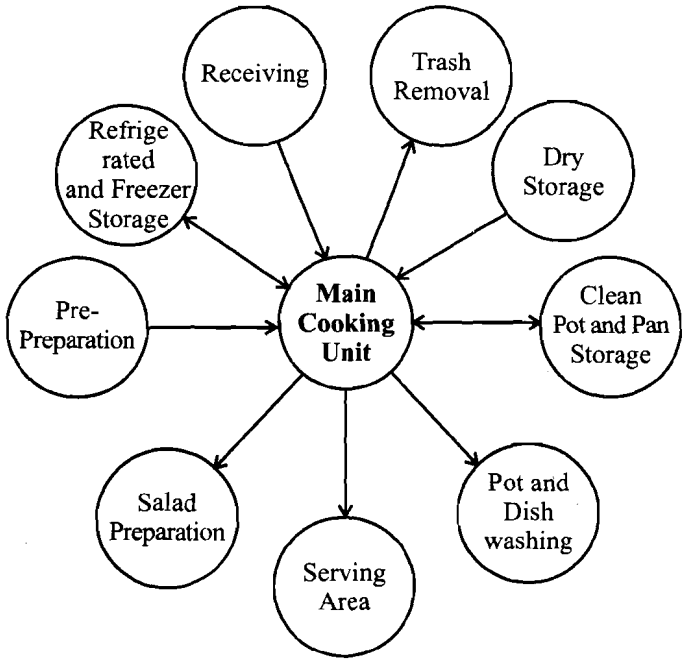

Figure 3.2: Relationships of main cooking unit to other work areas

Next, let us get to know about the specific needs of the holding/packing and dishwashing areas.

- *Holding/Packing*: Holding area or packing station has to be designed in consonance with the objective of the food service unit. If it is a hostel for students this area will have a counter space with a baine-marie installed: for a cafeteria it may have more than one counters serving each specific item as you may have seen at the Nirula's food joint. Whereas in Railway base kitchen, a packing station with counter space to pack 100-200 meals has to be provided. In a hospital, where centralized food service is adopted, it may even call for a conveyor belt to assemble the trays. Thus, you have seen each unit will need careful scrutiny to design its work centers.
- *Pot and Pan and Dishwashing area*: Washing area for large utensils and also for the serving dishes has to be planned and clearly earmarked as it needs space, water facility and storage. Usually separate rooms are provided for this activity, especially if mechanical dishwashers are used.
- *Service*: Service of finished food or menu item is a specialized activity. On premises service calls for separate space called dining area as seen in restaurants, hostels or canteens where table service is adopted, with paucity of space you may just provide counters as seen in fast food joints and if no space is available, you may have off premises service where food is served to the customer at their place. Sometime off premises service has to be adopted to suit the customer as in rail or air travel or to patients in bed.

Look at Figure 3.3 which gives the layout plan showing preparation, service areas of an institutional food service. In planning the placement of work centers, work flow and *space relationship* has to be established. Figure 3.4 presents the flow chart diagram showing desireable work area relationships and progression of work from receiving goods to serving with little cross traffic.

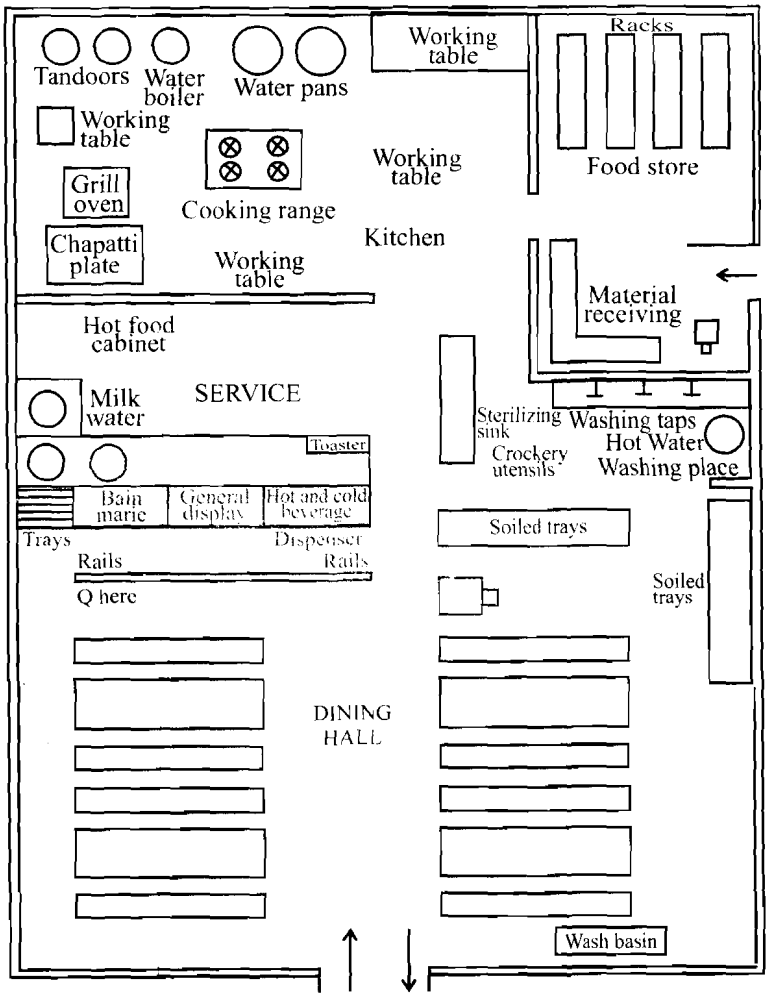

Figure 3.3: Layout plan showing preparation, service areas of an institutional food service

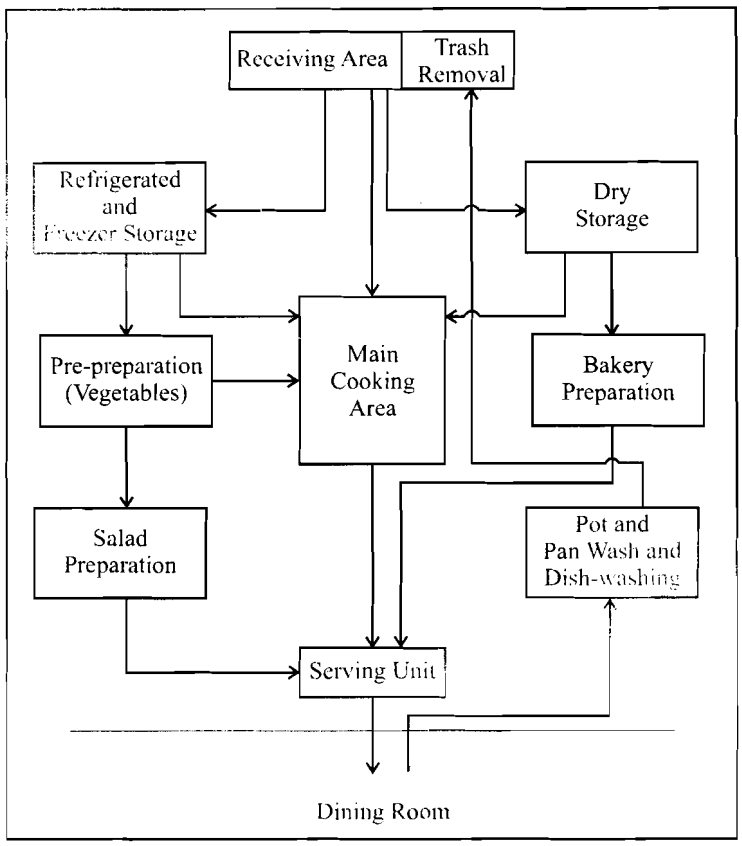

Figure 3.4: Flow chart diagram showing desirable work area relationship

The amount of floor space and how it should be divided for food service activities is difficult to state because each operation differs. When designing work stations or units the space requirement should also be considered keeping in mind the activity and the volume that has to be handled, all the equipment that would have to be provided and comfortable work space for personnel and traffic aisle. One procedure often followed is to calculate dining room area. Fairly accurate estimates for dining area can be calculated if the type of service and number of persons to be seated at a time are known. Likewise the seating capacity can be determined by the use of generally accepted standard number of square feet per person for different kinds of institution food service. A suggested guide is given herewith:

School lunch rooms	9-12 sq.ft per seat
Cafeteria	10-11 sq.ft per seat
Industrial cafeteria	16-18 sq.ft per seat
Restaurant	12-15 sq.ft per seat
Hotel with table service	14-16 sq.ft per seat

Once the dining room is known the kitchen size may be estimated as *one third* or *one fourth of the dining area.* This is a rough estimate as many variables are involved. A school cafeteria and fast food restaurant may serve the same number of customers but the school cafeteria may need more space for kitchen and dining as a larger number have to be served during meal time, whereas the restaurant has a more spread lunch time. The same with hospital kitchen which will have more kitchen space than dining area. *Mayfield* has suggested a better method for calculating the space required. In this method variable such as type of food service, delivery system, number and variety of meal produced, functions and task of each unit, traffic aisle needs, equipment needed and its space, employee scheduling, work space requirement, storage requirement and office and rest rooms were considered. Here the calculation was made by grouping all the equipment and staff into work unit with reasonable

space for each. This is more realistic and sometimes works out lesser than what is calculated on the basis of seating arrangement.

There are certain guidelines prescribed for provision of space. The main traffic aisle should be a minimum of 5′ or wide enough to allow passage of cart without interference on both sides. A clearance of 10″ should be provided. The aisle space between equipment and work table should be at least 3′. In case of oven or kettle that open out, the work space should be about 3-4′. The work height are generally 36-40″ for standing and 28-30″ for sitting position. A minimum of 4 linear feet of worktable space is recommended for each employee. The maximum reach over a table without stretching is 20″ so the equipment should be placed with that arc. Those equipment that are frequently used should be placed near proximity of the work space. An overall integration of areas is necessary in planning. Figure 3.5 shows some standard for work space.

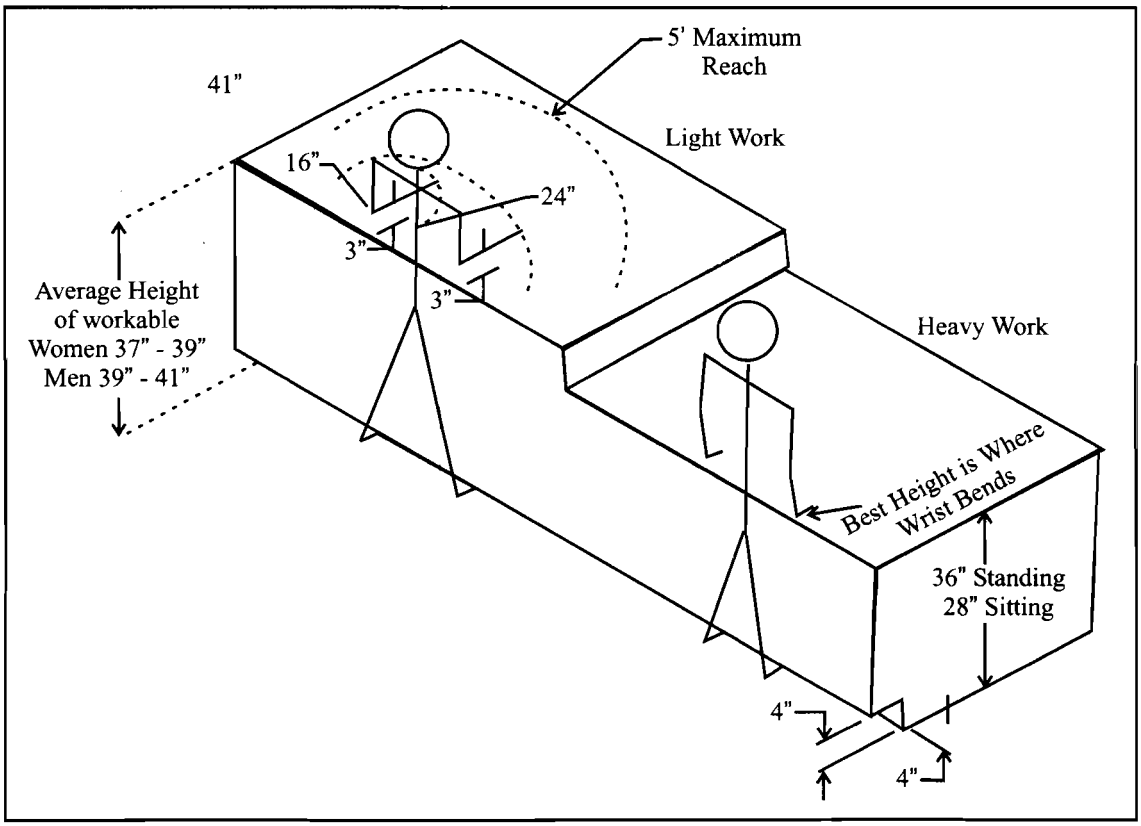

Figure 3.5: Standard for work space

Having established the work centers let us look at the equipment that are necessary at each unit to make it operational.

3.4.3 Equipment

Any work center is made operational only when it is facilitated with the appropriate equipment. Therefore it is important to plan the choice of equipment and this has to be done after studying the following consideration:

- Need of the particular food service as determined by the menu and the complexity of food served
- Number and type of patrons to be served
- Form in which the food is purchased
- Style of service and length of serving period
- Number of labour hours available
- Ability of the employee to do the work
- Accessibility and cost of utilities

- Budget and amount of money allotted for equipment
- Floor plan and space allotments.

The need for equipment is basically determined by the menu which prescribes what is needed to process the raw material to make the finished product. As mentioned earlier the equipment needed in an Indian menu will be different from Continental or Oriental one. Though there is some basic equipment which is common in food service units, each menu also seeks specific equipment.

The volume or capacity for food to be handled at a time will be determined by the volume of patrons and number that is to be catered at a time. A banquet that serves 500 people will require different equipment when compared to a restaurant that has an a-la-carte menu. We will learn about this menu later in Unit 5.

The form in which the raw food material is purchased will influence the choice of processing equipment. If it is a conventional kitchen that processes all food from raw material, a large number of processing equipment will be needed where as a nursing home which only assembles the processed food in tray to dispense to patient will not require any such equipment.

The number of employees and their capacity to do the work will also determine the need for equipment. If there is adequate labour to perform work then the choice of equipment is limited where as if skilled labour is sparse or expensive or the time available is not sufficient then one has to invest in equipment that speeds up work.

When planning the equipment it is also necessary to make the decision in consultation to the space available to accommodate them in the kitchen. Ultimately the final decision to buy the equipment will rest on the money available. Yet it is important to keep these considerations in mind when buying equipment.

Let us now familiarizes ourselves with the type of equipment that we need to buy for an institutional kitchen. You will find a detail review on plant and equipment later in Unit 16. Here a brief summarization follows. Equipment can be classified as:

- *Cooking equipmen*t can be gas operated or electric e.g. cooking range, griddles, broilers, fryers and ovens. Some may be also steam operated as double jacketed kettles and pots, pressure cookers or cabinets.
- *Non cooking equipment*: These are basically the labour saving devices that are needed in large kitchen. In this category you have, mixing machines like dough kneader, food processor, slicers, choppers, mincers, wet grinders, refrigerators, dish washers and waste disposers.
- *Non-mechanical equipment* is also necessary for kitchen these include tables, weighing scale, carts, storage racks, cabinets, utensils and sinks.
- *Serving equipment* includes crockery and cutlery and serving dishes and mobile serving carts.
- *Modular equipment* are equipment that are complete in all its operations and kept in a centralized unit for more persons to use it and also it is mobile allowing space utilization.

The features of equipment should be the basis which governs the selection of its purchase. The criteria is as follows

- Design and function
- Size and capacity
- Material
- Construction
- Installation, operation, performance
- Maintenance and replacement

Design and function both have to be integrated in making equipment. Beauty and utility should be combined in food service equipment. There should be simplicity in

design and it should serve the function it is designed for. The size and capacity of equipment is determined by the volume to be produced. Standard sizes are available for each type of equipment but if a specific need is to be met in size or space, equipment can even be custom made, in other words, designed by giving its own specification. The choice of material of the equipment should be determined by the function, maintenance and also cost. Today there is large variety of material available so a thorough study of material has to be done before making choice. For e.g. cooking pots will be available in aluminum, alloy, brass, steel, teflon (non-stick material). The construction should also be checked for its finishes. It should ensure durability, be attractive and ensure sanitation. The welding or edges should be done well and be safe for use. Any equipment should facilitate ease of installation and operation and have a good track record of performance. Usually branded company equipment is a measure of good performance. Any equipment will be worth its investment only if it can be easily maintained and replacement of worn out parts are possible. So when selecting, use these criteria as a check list and then decide to buy that equipment which satisfies these measures.

To purchase the equipment one has to undertake a market survey, collect quotation from companies that manufacture it or dealers that sell it. Then compare the brands using the check list and then put in your order for purchase. When you receive the equipment it is also important to check it against your order, see to the installation, get a trial run and have a contact of maintenance from the company. Some of the companies that make equipment for institutional kitchens are Continental, Hobart, Kenwood, Narang, Sumeet and many others.

Once the equipment planning is done, the next phase involves developing the overall plan. Let us see how.

3.4.4 Developing Overall Plan

You have now decided upon the work centers and the equipment. The next step is to draw the overall plan with the work centers and equipment. This is where the architect will design the blue print for you. In making a blue print certain technical drawing are adopted to indicate wall, windows , doors, work centers and equipment. It is usually drawn to scale. The next step is to obtain the templates or to scale model drawing of each equipment and is placed on the layout to give it a three dimension effect. Figure 3.6(a) and 3.6(b) presents a schematic layout of a hospital kitchen.

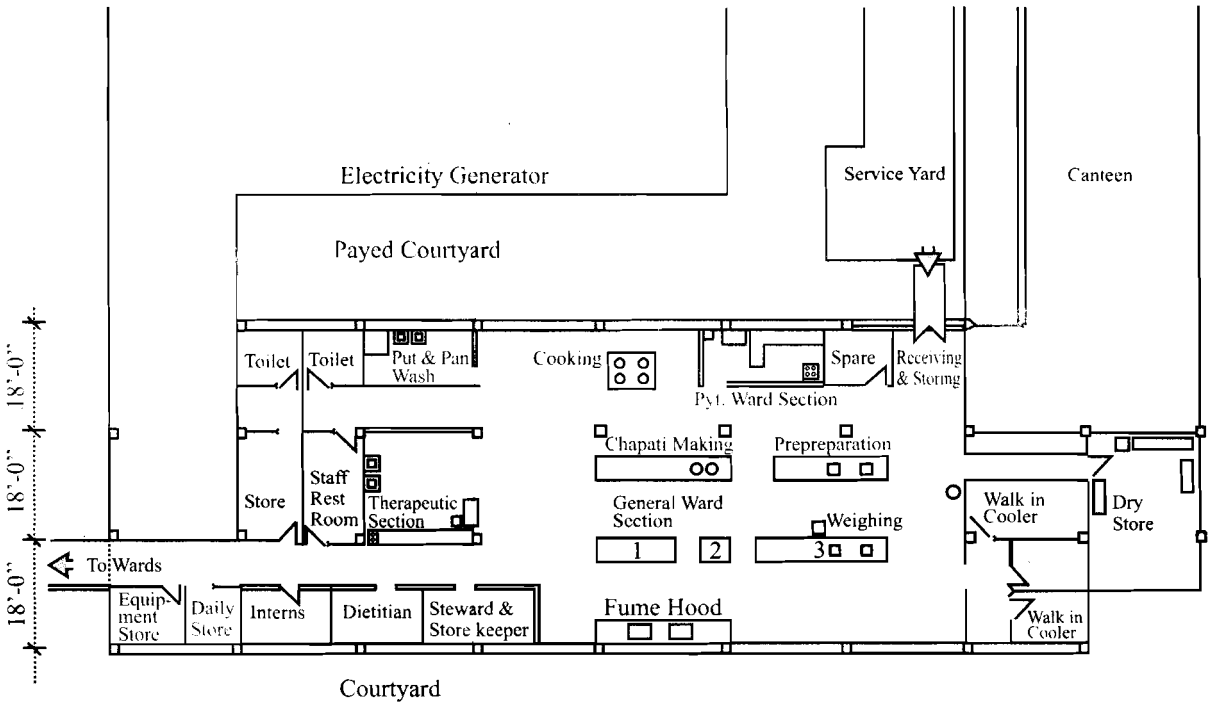

Figure 3.6(a): Schematic layout of a hospital kitchen

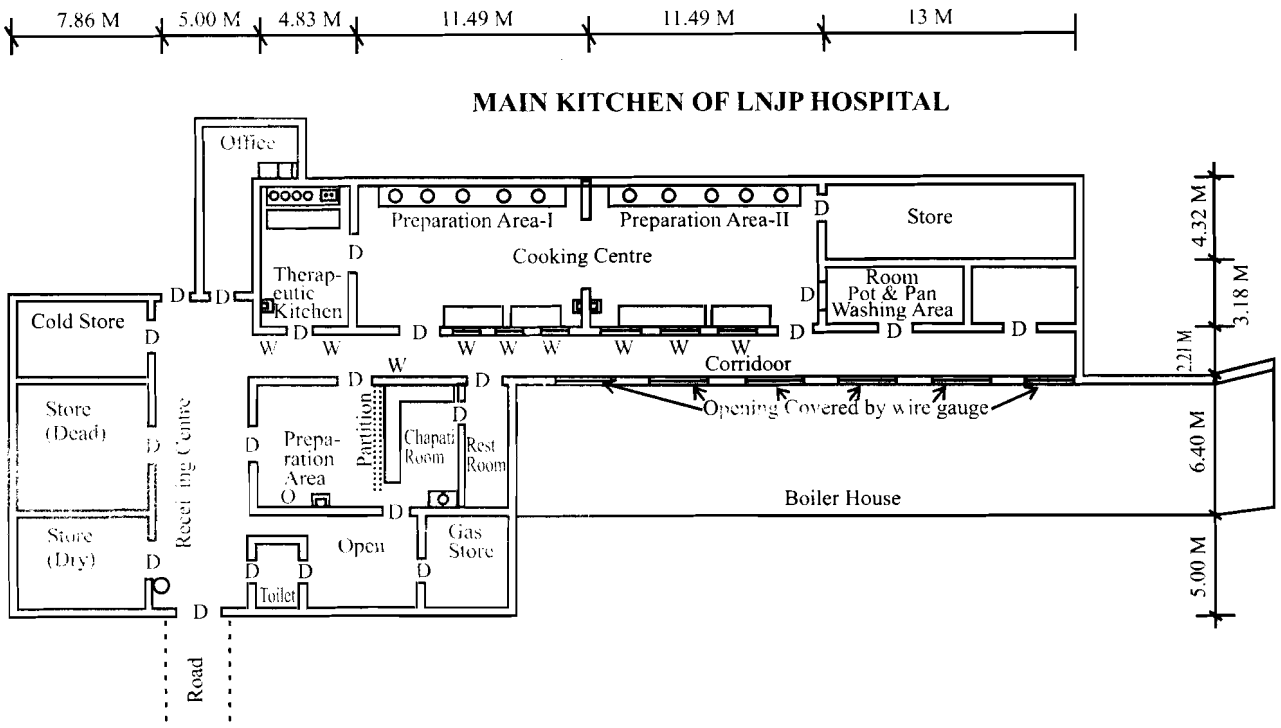

Figure 3.6(b): Schematic layout of the main kitchen of LNJP hospital, Delhi

Computer assisted design planning facility is also available to help design a layout. It facilitates a visual presentation of layout with all the work centers and equipment. One can add in all architectural features and run all the operations before finally deciding the plan.

In the discussion so far we have looked at the various phases involved in a layout design. We suggest you take a break here and answer the questions given in the check your progress exercise 1. This will help you recapitulate what you have learnt so far.

Check Your Progress Exercise 1

1) Briefly list the factors that affect layout design.

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2) What are three essential components of a prospectus? Explain briefly.

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3) Describe the following in 2-3 lines.

a) Holding area

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b) Major consideration before buying equipments

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c) Production unit

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d) Receiving area

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From lay out design we move on to the architectural features next.

3.5 ARCHITECTURAL FEATURES

The architectural features add body to the layout. This would mean deciding the kind of floor, walls, ventilation, lighting, plumbing, electrical facilities, heating and cooling facilities and acoustical measures. In an institutional kitchen the choice of these features should be appropriate so as to serve the purpose. So to make a good choice one should know the variety available in the market, be knowledgeable about its function and make a wise choice. Let us review some of these features.

Floor: It should be impervious to grease and dirt, durable, non slippery and sturdy to wear and tear yet easy to clean. Floor can be laid using a simple reinforced concrete to a choice of tiles. The various floors available are: RCC, Mosaic, Terrazo, Vinyl, Linoleum, Kota, Marble, Granite, Tiles-clay, rubber brick, synthetic Spartac. The best being Terrazo or kota stone as it prescribes to most of the needs.

Walls: The walls again should be similar to the floor, being heat resistant, cleanable. *Hard* plaster with enamel finish is suitable. *Preferably* it should be tiles till a height of 7′ if it is near steam and cooking media. The finish to the wall in each area should be suited for ease in function.

Ventilation: Adequate ventilation is a must in kitchen to prevent contamination and spoilage and it should be facilitated by the provision of doors and windows. In addition as the kitchen has tendency to accumulate fumes, chimneys or hoods with exhaust fans at work station should be provided. The windows should have wiring netting and if possible certain areas can be air conditioned also.

Lighting: Lighting is important in a kitchen to ensure safety of food. Natural ventilation to some extent provides some light. But if not adequate both direct and diffused lighting has to be provided. Today in the market there are many kinds of light fittings available such as fluorescent, filament and mercury. Thirty-forty watt is recommended for diffused lighting and about 80 watt for filament light per square meter area. All lighting should be installed over work surface and not behind it and care taken to select energy efficient and effective light.

Plumbing: Facility for portable water, water for washing and drainage should also be included. As the institutional kitchen is a facility that needs water at many work station careful planning of its supply and flow of used water has to be planned. It is necessary to build it in the layout design and choose fitting that suit the purpose. Even the slope of the floor has to be planned to prevent water logging and backflow.

Electrical fittings: The kitchen calls for heavy duty equipment that needs special type of electrical installation. Each section should be facilitated with points and if there is a modular utility provision a panel with various kinds of switches should be put in place. Provision for heating and cooling system should be planned in the structure also while selecting the equipment.

Work areas: If constructed with brick and mortar it should be laid with marble or granite. However in kitchen, stainless steel is by far the best as work surface. The work surface should be easy to clean and maintain and ensure ease of work.

Acoustic measures: As the kitchen is a noisy place certain measures should be taken to reduce noise in the room. In areas like dish washing room, it can be partitioned by using hollow brick for walls or rubber tiles can be used for floor.

Safety and Sanitary Measures should also be built in the structure. This can be done by the right choice of material, which is non-inflammable and also that which can be easily cleaned and kept clean. In laying of floor, walls and ceilings care should be taken to avoid cracks crevices and too much contours.

The consideration of all these architectural features may be done in consultation with the architect and choice made only after samples seen and tested. The architect may have to make a series of plans showing the work centers with equipment, and one with plumbing, electrical installation, respectively and details of each area with the description of architectural features.

Once the architectural features are put in place, it is appropriate to evaluate the plan. Let us see how this is done, next.

3.6 EVALUATION OF PLANS

Evaluation in simple terms means "to judge the value of something".

Evaluation is a systematic and scientific process, determining the extent to which an action or set of actions were successful in the achievement of pre-determined objectives. It involves measurement of adequacy, effectiveness and efficiency. In the context of the food service establishment, it would be ideal if an evaluation of the plan is done to ensure:

- Work relationship
- Flow of work
- Energy management
- Time management

There are basically some tools available to test the efficacy of the plan. Work relationship can be assessed by making a flow diagram indicating the area and the proximity measured by drawing line between them. *A cross chart* can be formulated to show the number of times the material or worker had to move between the two areas. This will help place the area that have maximum interaction near each other. Figure 3.7 illustrates flow of work in a hospital kitchen.

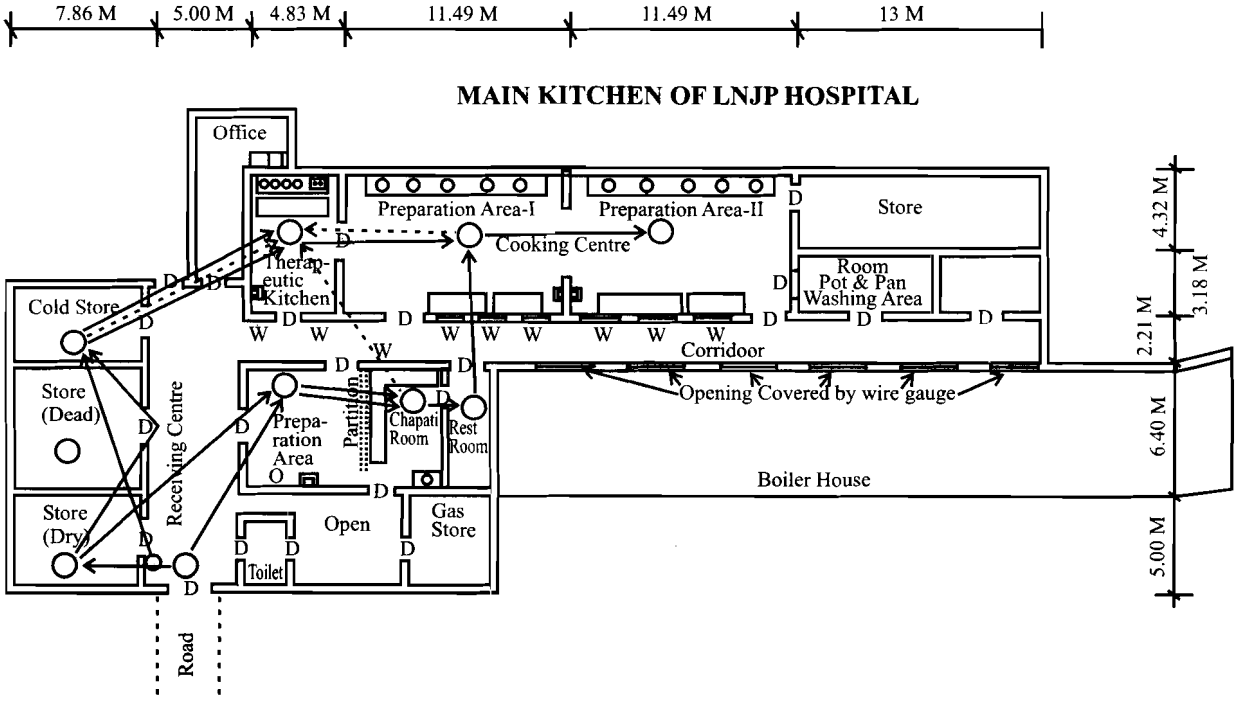

Figure 3.7: Flow of work in hospital kitchen

As you may have seen in Figure 3.7, the flow of work can be assessed by drawing the path of activity on a layout diagram or by using a string chart. In a string chart the layout of a work unit is drawn on graph paper and pins put at work centers. A string is used to trace the path taken for an activity. If the picture shows criss

crossing or a point of congestion it can be corrected. The total length of the string shows the distance traveled to accomplish the job.

Process analysis is a technique to assess energy management of both man and material and the tool used is the *process chart*. The process chart provides a systematic description of the work cycle, with sufficient detail for analysis and to develop methods for improvement. A *process chart classifies the activities*, which occur during a process such as, *operation, transportation, inspection, delay*. Standard symbols are used to depict these activities, as shown in Figure 3.8. Process chart involves selecting key operations for critical examination, determining the requirement for detailed recording and establishing logical sequence of activities in a process like assembly line. These charts are used for pointing out wasteful activities, material or manpower movement. Figure 3.9(a) and 3.9(b) show the use of process chart for vegetable making that was adopted and its modification after analyzing it using a process chart.

Thus you see the objective of evaluating a layout is to check whether the placement of work centers and equipment is such that it facilitates smooth operation of the activities in the quickest and best mode. This type of analysis is now possible in the computer aided designing of layout which helps to run through the operations and also enables to shift work centers and equipment till the most appropriate or correct plan is obtained.

Evaluation of the plan also ensures energy and time management. Let us study about the energy and time management in further details.

3.7 ENERGY AND TIME MANAGEMENT

Energy conservation is considered as energy management. This has to be planned while selecting the architectural features especially in the choice of lighting, heating and cooling systems. The proper maintenance of equipment also leads to conservation of energy that is utilized in its running. e.g. a thermostat, proper insulation, regulators are all mechanics that conserve energy. Human energy also has to be conserved, and providing the right work height and facilities of temperature and humidity can do this. Thus the energy management would involve a good schedule for utility energy conservation and management of human energy for optimal output. An e.g. of conservation of energy for oven is highlighted herewith:

- List all the items that have to be baked in the oven
- Note the temperature needed (350-250°C)
- Pre heat the oven to the maximum temperature needed
- Assign the baking schedule of items from maximum heat required to lowest heat
- Use the heat available after the oven is switched off for making bread crumbs
- Put items in the oven to keep warm.

So you see how the heat energy is conserved here. Very often you may find a heater on or the gas on high flame when not in use; ensure that it is put off when not needed. One can enforce both external and internal control.

Any plan that ensures smooth flow of work also ensures that work is executed in the short period of time available and thus facilitates time management. The right choice of labour saving devices also helps to use time optimally. The process chart identifies wasteful movement and suggests the necessary operations for any activity. The work schedule which plans the production of menu will also facilitate optimal time utilization.

Finally financial status analysis is crucial for setting up a unit. Let us learn more about this aspect.

PROCESS CHART

Present ☒ Proposed ☐

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SUMMARY	No	TIME ( )
Operations ○	1546	
Inspections □	0	
Moves ⇨	99	
Delays D	70	
Units produced 70 trays		1 1/2 hr
Total distance moved		

Task of Job: Dishwashing Procedure, Operations I
Scrapping Trays

Dept: 10th Floor Pantry

Equipment Tools, etc: Scrapping counter, prerinse counter with disposal unit trash can, carts cloth

Operator: Pantry Maid A

Analyst — Date March 20, 1963

Descriptive Notes	Activity	Dist	Time	Analysis Notes
Rinses cloth at sink	⊗□⇨D			Damp cloth is used to wipe trays
Carries cloth to scrapping table	⊗□⇨D	8' 6"		
Brings loaded cart into pantry from hall	⊗□⇨D	5' 6"		Positions cart at left of operator. Each cart holds 6-9 trays
Moves to side of table	⊗□⇨D			
Takes tray from cart and places on scrapping table	⊗□⇨D			
Moves around in front of table	⊗□⇨D	1' 0"		Convenient position for working
Changes position of tray	⊗□⇨D			
Places tray on stack of empty trays	⊗□⇨D			
Pulls menu rom trays	⊗□⇨D			
Places name card on tray at extreme right of scrapping table	⊗□⇨D			Name cards in attacks by section
Picks up salt and pepper with left hand	⊗□⇨D			
Places salt and pepper on tray with name cards	⊗□⇨D			
Empties coffee pots into disposal	⊗□⇨D			
Places empty coffee pots on prerinse counter	⊗□⇨D			
Picks up plates and scrapes waste into disposal	⊗□⇨D			
Adds plate to scrape prerinse counter	⊗□⇨D			
Picks up creamer and empties contents into disposal	⊗□⇨D			
Places creamer on prerinse counter	⊗□⇨D			
Places cup and saucer on prerinse counter	⊗□⇨D			Saucers attacked
Removes glasses from tray and empties contents into disposal	⊗□⇨D			
Places empty glasses upside down in wash rack in prerinse counter	⊗□⇨D			
Picks up bowl with right hand	⊗□⇨D			
Transfers bowl to left hand	⊗□⇨D			Unnecessary handling
Scrapes waste food from bowl with spoon into disposal	⊗□⇨D			Rubber scrapper better tool
Stacks bowl on prerinse counter	⊗□⇨D			

Figure 3.8: Standard symbols in process chart

PROCESS CHART 3.9A

Operation : Vegetable preparation
Method : Original

Distance (m)	Symbol	Explanation
3.0		Drags the bag of vegetables from receiving area to the weighing machine
4.3		Weighs the vegetable
		Drags the bag to the preparation area
		Remains in the area till the time for pre-preparation
7.6		Gets a container from cold store to pre-preparation area
		Transfers the vegetable in the container
45.0		To work top in chappati making area. (Operation repeated 5 times).
		Removes inedible portion
59.6		Chops the vegetables

PROCESS CHART 3.9B

Improved

Distance (m)	Symbol	Explanation
3.0		The vegetable bags transported in a trolley to weighing machines
		Weighs the vegetables
4.3		In a trolley near top in pre-preparation area
		Washes the vegetables
2.5		To work top
		Removes in edible portion
		Chops the vegetables
59.6		

Figure 3.9(b) and 3.9(a): Use of process chart for vegetable making

3.8 FINANCIAL STATUS ANALYSIS

As mentioned in the beginning of the unit, planning a layout is a capital intensive venture. Therefore one has to plan the finances well. This requires listing all components of layout design and planning the finances for it. There are three options in planning the layout. These include:

- One where the land has to be procured and building made
- Second where land is available and building has to be constructed
- Remodeling of the existing physical facility.

Each of these venture will require different capital investment. In the first option money will be needed to purchase land, construct the building and buy and install equipment. Second option needs money for building and equipment. It may cost less than the first. Third option will incur some demolition cost and the remaining cost will depend on the extent of work undertaken.

Usually the costing of the layout is done by the architect considering the cost of building material and features cost and quoted as rate per sq m. In addition you will have to add the cost of equipment and installation cost. Other than these certain other cost for utilities such as electricity, water and sewage has to be made to the corporation. Registration and legal cost also has to be included in the total cost. A systematic way of planning cost is to review the current market prices for construction and material and keep a watch on the actuals spent. As the time gap between the conceptualizing and budgeting the plan, getting it approved by government agencies and finally completing the construction is usually large sometimes even a year it is better to add about 15% as escalation of price. After planning the budget one should also be sure from where the funds will come and should ensure a steady cash flow. So you see that to set up a food service unit it is not only necessary to plan the action but also ensure that it is implemented well and within cost.

Check Your Progress Exercise 2

1) Enumerate briefly the architectural plans you would bear in mind before setting up the food service unit.

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2) Explain the importance of the following in 2-3 lines.

a) Acoustic measures

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b) Ventilation

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c) Safety and sanitary measures

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3) Explain what do you mean by financial status analysis.

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3.9 LET US SUM UP

This unit focused on the setting up of a food service unit. The major points emerging from this unit were:

- Factors such as purpose of the food service unit, customer's profile, menu and type of services have a major role to play in setting up a food service establishment.
- Planning a suitable layout is another essential component to set-up a food service establishment. These as we have read earlier in this unit include prospectus formulation, determining work centers and equipment, overall plan development, planning architectural features and finally evaluation of the plan.
- Conservation of energy along with time management is a extremely important goal for a food service unit, as both these parameters in their own respect spell out monetary savings and go long way in meeting the budget requirements of a food service unit.
- Finally, financial status analysis is the key for procuring a land and building a food service unit. It is also required for remodeling of the existent physical facilities apart from securing the necessary legal approvals before setting up the food service institution.

3.10 GLOSSARY

Holding area : is the place where the food of any food service unit such as hostel dining area etc. is kept (held) before they are doled out.

Menu : a printed list given to the patrons that enlists the various foods served in the food service organization along with its unit cost.

Preparation area : is where the food especially raw food after being washed, and cleaned is processed to form a product/ dish.

3.11 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) The major factors that affect layout design are:

   a) Purpose of the unit: that is whether the food service unit is a hospital, restaurant, production or service unit.

   b) Customer's profile: This deals with the kind of people one needs to be catered to

   c) Menu - the document that lists the food items

   d) Type of service.

2) The three essential components of a prospectus are:

   — Rationale that includes the title, reason or needs of project, policies and procedures

   — Physical and operation characteristics - that include architectural designs and features and,

   — Regulatory information that includes safety and noise feature, type of utility etc.

3) a) Holding area or packing station is the place or area where food is served and is kept (holding) before service eg: Baine maries in a hostel.

   b) Major considerations include:

      — Equipments needed as per the type of service, menu and food service unit

      — No. of labour hours available

      — Accessibility and cost of utilities

      — Budget of food service unit and,

      — Floor plan and space allotment.

   c) A production unit is that area of the food service unit where actual cooking of food items takes place. Here production of food items occur as per the menu and can be divided into Indian cooking, continental and so on.

   d) Receiving area is that place from where loading of food items can be directly done into the food service unit and can be weighed and channelized to store area.

Check Your Progress Exercise 2

1) The major architectural features that need to be kept in mind before setting up a food service unit includes. Floor, walls, ventilation, lighting, plumbing, electrical fittings, work area, acoustic measures or sound proofing and safety measures.

2) a) Acoustic measures are soundproof measures that need to be included in a kitchen architectural plan to reduce noises that arises from cooking, dishwashing and machineries.

   b) Adequate and good ventilation is necessary for all kitchens to prevent contamination, odour development. This is done by making provisions for windows, doors, ventilation fans, chimneys and if possible air conditioning.

   c) Safety measures should be in-built in an architectural plan. Choosing non-flammable, easy to clean materials does this. Safety measures for a kitchen plan helps ensure safe cooking for all employees. Proper drainage and cleanliness of kitchen premises is equally important.

3) Financial status analysis is a comprehensive plan to check monetary needs of a food service unit. This analysis tells you about money on hands and amount used on purchases and should be saved for future use.